Air Conditioning

SYSCREW 380-1260 AIR EVO HSE

Air Cooled Water Chillers with Inverter Screw Compressors

INverter

R513A

R134a

366 to 1241 kW

systemair

SYSCREW 380-1260 AIR EVO HSE

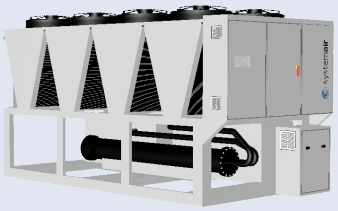
Air Cooled Water Chillers with Inverter Screw Compressors

- Available in 12 sizes
- Three fan versions: Standard, High Temperature & High Pressure Fans
- Two acoustic variants: Standard & Super Low noise
- R513A and R134a refrigerant
- Cooling capacities from 366 to 1241 kW
- Low energy consumption
- Reduced sound emission
- Robust frame

SYSCREW 380-1260 AIR EVO HSE is a step ahead in terms of environmental sustainability and guarantees a rapid investment pay-back. Introducing all-round variable volume flow management thanks to inverter driven compressor technology, EC fan motors and electronic expansion valve, this solution optimizes seasonal cooling efficiency (SEER) and guarantees extended envelope operation and noise reduction.

BIM models

available at **www.magicloud.com**



EC Driven

The preservation of the environment and energy savings are at the heart of the Systemair philosophy.

100%

of the units are factory tested

Product advantages

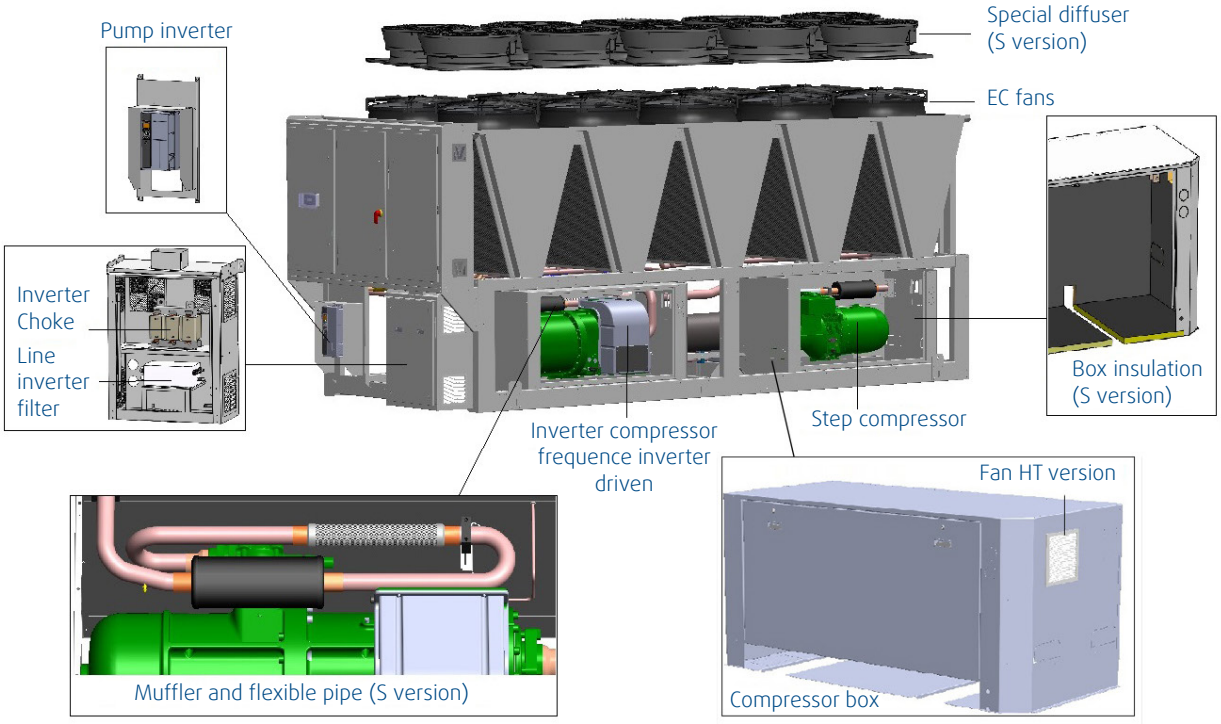
- High seasonal efficiency level exceeding **Erp 2021** requirements
- High durability painting process for casing and frame, offering **C4 corrosion category** in accordance with ISO 12944
- **Compressor metal box**, providing basic acoustic protection and resistance to atmospheric agents
- **Side panel** on coil ends, protecting from corrosion and damages
- **EC fan motors**, improving part load efficiency, extending envelope operation and reducing noise level in part load operation
- **Proprietary software logic**, optimizing unit efficiency in accordance with plant needs and protecting unit operation with preventing actions
- **Wide range of connectivity options** with Serial / Ethernet / USB ports standard included

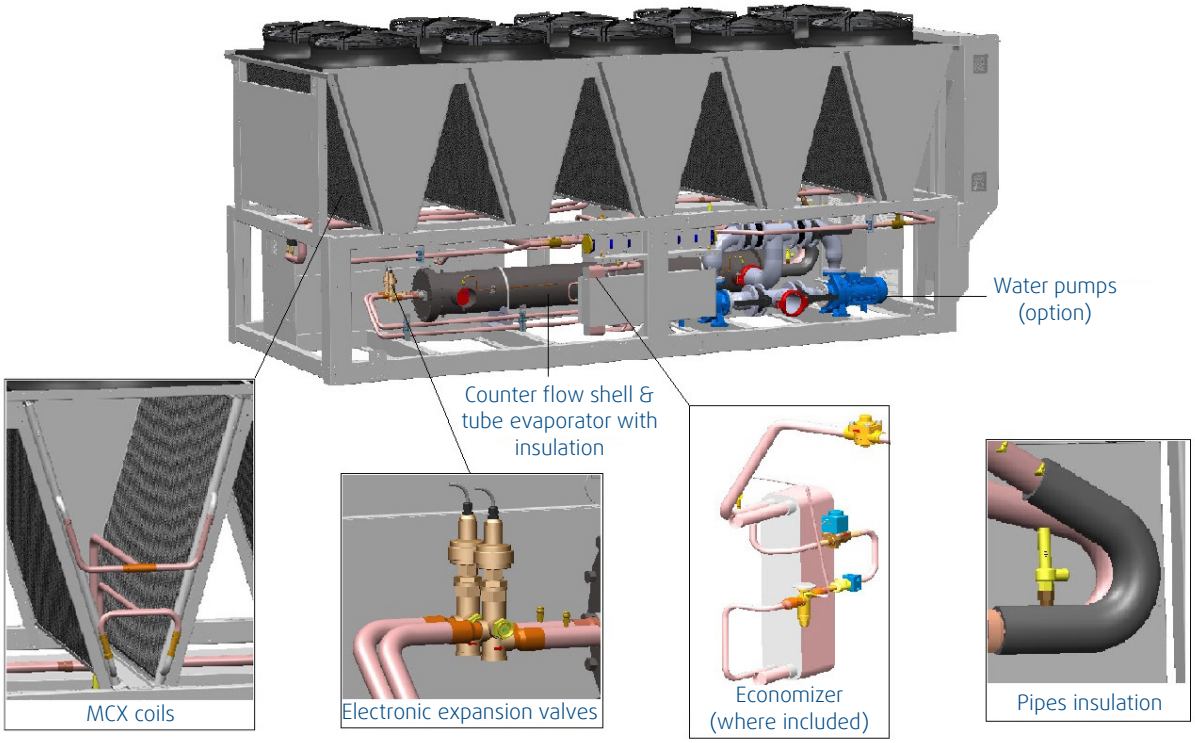
Technical Documentation

Find our complete documentation on the application **MEDIA CENTER** by Systemair
Also available at: **www.systemair.com**

Main features

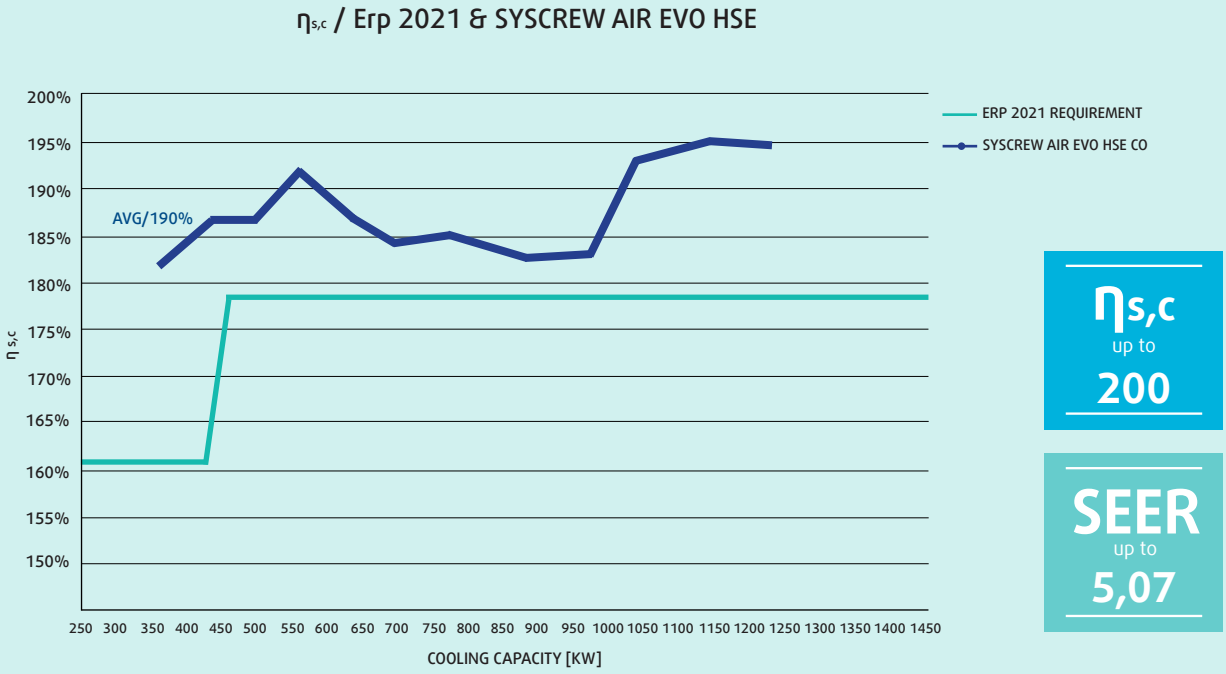
- Two refrigerant circuits with hybrid combination between inverter driven and fixed speed Screw compressors
- Pure countercurrent shell and tubes direct expansion heat exchanger
- Axial type EC fan motors
- Micro-channels condensers
- Electronic expansion valve
- Hydronic / heat recovery options





Environmental sustainability

Seasonal efficiency exceeding Erp 2021 requirements thanks to variable speed technology



ηs,c
up to
200

SEER
up to
5,07

R513A, a safe refrigerant reducing environmental impact

- **A greener solution** → Global warming potential 56% lower than R134a
- **A safe solution** → A1 classification (according ASHRAE) meaning not toxic / not flammable
- **A plug & play solution** → Alternative slightly flammable / low GWP refrigerants generate capacity loss with equivalent components

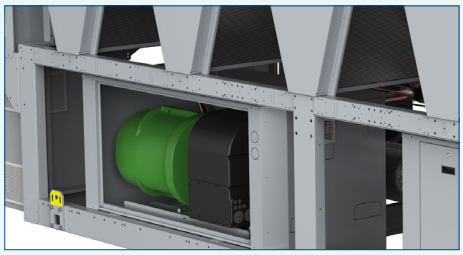
R513A

While limiting CO2 emission within the environment, the combination of variable speed technology with a greener refrigerant represent a competitive advantage for the customer, meeting environmental protocols and raising the value of the building.

Technologic Innovation

All-round variable volume flow management

Improved part load efficiency
Continuous capacity control
Flexible offer in plant integration

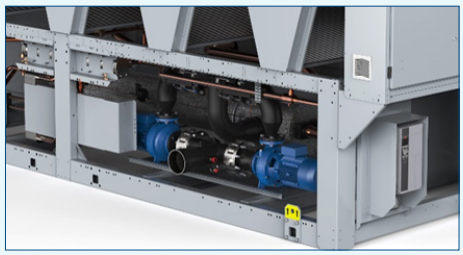


REFRIGERANT

Inverter driven compressor technology and electronic expansion valve

AIR

EC brushless fan motor technology



WATER

Inverter driven pump technology

Robustness

Screw compressor technology, proprietary software logic and heavy construction

Screw compressor operating with low pressure refrigerant

- Ideal combination for heady duty use
- Innovative design adapting internal geometry to the optimal performance

Proprietary software logic

- Optimized load management to boost seasonal efficiency
- Active control algorithms to operate safe in borderline conditions

Heavy construction

- Strong design of metal profiles to fit challenging transportation and lifting
- Double refrigerant circuit an all the sizes

Technical Data

SYSCREW AIR EVO HSE R513A (STD/HT/HPF)

Model		380	440	510	590	660	730
Nominal cooling capacity[1]	kW	365,7	443,0	500,2	565,8	643,5	704,3
Input power[1]	kW	123,9	142,9	165,6	181,1	206,2	228,6
EER[1]/ Energy Efficiency Class		2,95/B	3,10/A	3,02/B	3,12/A	3,12/A	3,08/B
EER $_{CONDITION\ B}$ (74%)		3,95	4,01	3,99	4,02	3,93	3,95
EER $_{CONDITION\ C}$ (47%)		4,66	4,81	4,81	5,03	4,76	4,66
EER $_{CONDITION\ D}$ (21%)		6,14	6,31	6,33	6,65	6,62	6,23
SEER[2]		4,53	4,66	4,65	4,80	4,66	4,56
$\eta_{s,c}$ [2]	%	178	183	183	189	183	179
Number of refrigerant circuits		2					
Total capacity steps*	%	22%÷100%	18%÷100%	16%÷100%	14%÷100%	13%÷100%	15%÷100%
Compressor							
Number/ Type		2 / 1 variable speed + 1 fixed speed					
N° of loading stages		Continuous capacity control					
Evaporator							
Number/ Type		1/Shell&Tube					
Water flow	m³/h	63,0	76,4	86,2	97,5	111,0	121,4
Pressure drop	kPa	17	24	19	24	31	30
Water volume	l	149	142	246	246	228	276
Antifreeze Heater	W	200	200	300	300	300	300
Air cooled condenser							
Number of coils		8	10	10	12	14	14
Total coil face area per coil	m²	2,3					
Fans							
Number of fans		8	10	10	12	14	14
Nominal speed	rpm	900	900	900	900	900	900
Total airflow	m³/h	183.960	230.040	230.040	276.120	321.840	321.840
Total input power	kW	12,0	15,0	15,0	18,0	21,0	21,0
Total input power**	kW	20,5	25,6	25,6	30,7	35,8	35,8
Total input power***	kW	24,0	30,0	30,0	36,0	42,0	42,0
External static pressure***	Pa	0 - 120 Pa					
Water Connections (Evaporator)							
Type		Victaulic					
Inlet Diameter/Outlet Diameter	inch	6/6	6/6	8/8	8/8	8/8	8/8
Water Connections (Desuperheater)							
Type		Male GAS Threaded					
Inlet Diameter/Outlet Diameter	inch	2"/2"	2"/2"	2"/2"	2"/2"	2"/2"	2"/2"
Weight							
Shipping	kg	3.747	4.117	4.651	4.995	5.392	5.931
Operating	kg	3.896	4.259	4.897	5.241	5.620	6.207
Additional weight							
Desuperheater versions	kg	76	86	100	100	114	114
Dimensions							
Length	mm	4.660	5.712	5.712	6.764	7.816	7.816
Width	mm	2.192	2.192	2.192	2.192	2.192	2.192
Height	mm	2.510	2.510	2.510	2.510	2.510	2.510
Acoustic Data							
Sound power level[3]	dB(A)	97	98	100	100	100	101
Sound power level[3]**/***	dB(A)	102	103	104	104	104	105
Sound pressure level at 10 m[4]	dB(A)	65	66	68	68	68	68
Sound pressure level at 10 m[4]**/***	dB(A)	70	71	72	72	72	72

[1] Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard
[2] According to commission regulation (EU) N° 2281/2016 for comfort chillers
[3] Sound levels are at fully loaded conditions. Sound power level values refer to ISO standard 3744
[4] Sound pressure levels refer to ISO Standard 3744, parallelepiped shape
* This value can change for BC version or other special applications
** High Temperature Units (HT), data with fans at max speed (1100 Rpm)
*** HPF Units, data with fans at max speed (1100 Rpm)

Technical Data

SYSCREW AIR EVO HSE R513A (STD/HT/HPF)

Model		810	900	980	1060	1160	1260
Nominal cooling capacity[1]	kW	778,1	896,9	983,5	1047,4	1154,0	1240,5
Input power[1]	kW	253,4	290,2	322,3	332,0	370,4	408,1
EER[1]/ Energy Efficiency Class		3,07/B	3,09/B	3,05/B	3,15/A	3,12/A	3,04/B
EER $_{CONDITION\ B}$ (74%)		3,89	3,82	3,98	4,10	4,14	4,20
EER $_{CONDITION\ C}$ (47%)		4,72	4,68	4,72	5,10	5,06	5,02
EER $_{CONDITION\ D}$ (21%)		6,62	6,32	6,22	6,69	6,70	6,68
SEER[2]		4,62	4,56	4,60	4,87	4,86	4,85
$\eta_{s,c}$ [2]	%	182	179	181	192	191	191
Number of refrigerant circuits		2					
Total capacity steps*	%	13%÷100%	14%÷100%	13%÷100%	17%÷100%	15%÷100%	14%÷100%
Compressor							
Number/ Type		2 / 1 variable speed + 1 fixed speed					
N° of loading stages		Continuous capacity control					
Evaporator							
Number/ Type		1/Shell&Tube					
Water flow	m³/h	134,2	154,5	169,5	180,5	199,0	213,9
Pressure drop	kPa	36	21	24	27	33	32
Water volume	l	276	379	367	356	356	431
Antifreeze Heater	W	300	300	300	300	300	300
Air cooled condenser							
Number of coils		16	18	20	22	24	24
Total coil face area per coil	m²	2,3					
Fans							
Number of fans		16	18	20	22	24	24
Nominal speed	rpm	900	900	900	900	900	900
Total airflow	m³/h	367.920	414.000	460.080	506.160	552.240	552.240
Total input power	kW	24,0	27,0	30,0	33,0	36,0	36,0
Total input power**	kW	41,0	46,1	51,2	56,3	61,4	61,4
Total input power***	kW	48,0	54,0	60,0	66,0	72,0	72,0
External static pressure***	Pa	0 - 120 Pa					
Water Connections (Evaporator)							
Type		Victaulic					
Inlet Diameter/Outlet Diameter	inch	8/8	8/8	10/10	10/10	10/10	10/10
Water Connections (Desuperheater)							
Type		Male GAS Threaded					
Inlet Diameter/Outlet Diameter	inch	2"/2"	2"/2"	2"/2"	2"/2"	2"/2"	2"/2"
Weight							
Shipping	kg	6.255	6.947	7.397	8.124	8.508	8.643
Operating	kg	6.531	7.326	7.764	8.491	8.875	9.074
Additional weight							
Desuperheater versions	kg	147	147	180	180	216	216
Dimensions							
Length	mm	8.868	9.920	10.972	12024	13.076	13.076
Width	mm	2.192	2.192	2.192	2.192	2.192	2.192
Height	mm	2.510	2.510	2.510	2.510	2.510	2.510
Acoustic Data							
Sound power level[3]	dB(A)	101	102	102	103	103	103
Sound power level[3]**/***	dB(A)	105	106	106	107	108	108
Sound pressure level at 10 m[4]	dB(A)	68	69	69	70	70	70
Sound pressure level at 10 m[4]**/***	dB(A)	72	73	73	74	75	75

[1] Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard
[2] According to commission regulation (EU) N° 2281/2016 for comfort chillers
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